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IOWA FARM SCIENCE

June 1960 — Volume 14, No. 12

Your contact with the Cooperative Extension Service, the educational arm of the College of Agriculture, may be in many different ways, formal and informal. This month's cover illustrates one of the more formal kinds of contact — in this case, a meeting being conducted by E. P. (Dutch) Sylwester, extension botanist and plant pathologist at Iowa State.

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June Iowa Farm Science Reprints
(available about mid-month)

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FS-871 What About Your Daughter's Future?

chat with the editors

FOR YOUR INTEREST . . .

Your reaction to the "For Your Interest..." sections was mixed, according to your comments in response to our audience survey several months ago. These sections have been published monthly, except for the May and June issues, for the past few years.

Generally, these sections have included brief summary reports on the results, applications and progress of farm and home research here at Iowa State. Some of you indicated that you liked these features. Others indicated they "could get along without them." Still others said they liked the brief items concerning several subjects but weren't interested in some of the others.

We've suspected that readers tend to "pick and choose" within the sections -- selecting subjects of specific interest. One person might be interested generally, say, in "Poultry" but not in "Horticulture," while another person may have an opposite preference.

Since Iowa Farm Science is published for you and since reaction to these sections seems so mixed, we'd appreciate any additional suggestions you may have concerning the handling or content of these sections. Your comments -- favorable or unfavorable -- regarding these sections or Farm Science in general are always welcome.

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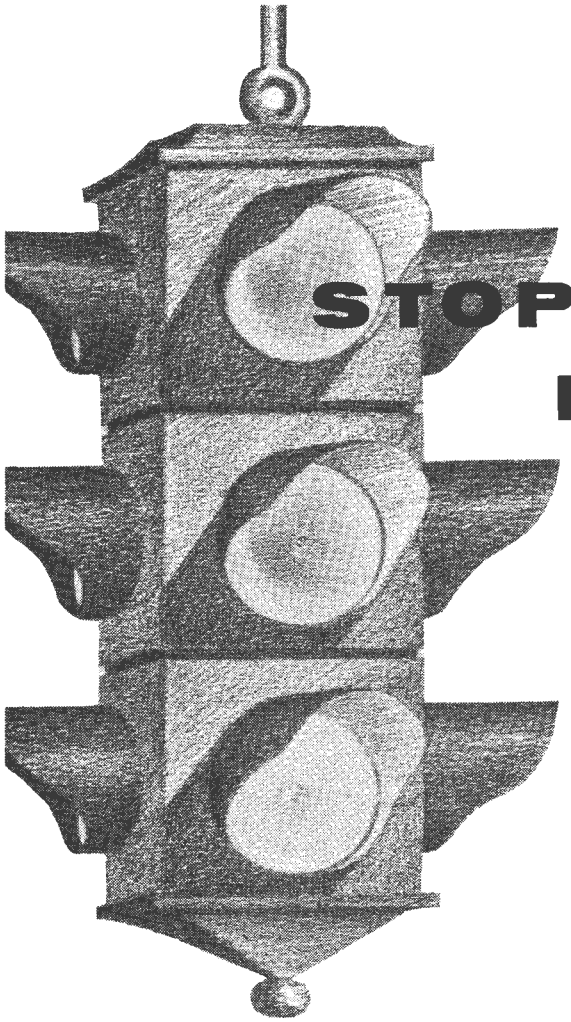


STOP Lawn Pests!

Your first line of defense against weeds, diseases and other pests is a good dense turf. No lawn is immune to these pests, but they needn't spoil the uniformity and appearance of your turf. Here's what to do.

by Eliot C. Roberts, Malcolm C. Shurtleff and Harold Gunderson

A GOOD DENSE turf is your first line of defense against lawn pests—weeds, insects and diseases. If your lawn has been properly constructed and properly maintained, it will be resistant to weed invasions and tolerant of attacks by insects and diseases.

This doesn't mean your lawn will be immune to these pests. Even under the most favorable growth conditions, the numbers of weed seeds or the potential for disease or insect attacks may be so great that a turf can't maintain enough vigor to survive.

Chemical control of weeds and diseases usually are necessary only where cultural practices in some degree have "fallen short." There's little to be gained from killing weeds and stopping the spread of diseases if your turf isn't able to recover and to fill in the bare spots. Poor soil fertility and less-than-necessary maintenance practices often are responsible for the inroads of lawn pests.

ELIOT C. ROBERTS is associate professor of horticulture and agronomy, MALCOLM C. SHURTLEFF is associate professor of plant pathology, and HAROLD GUNDERSON is professor of entomology.

Maintenance First . . .

To keep your lawn resistant to weed invasions and disease attack, always follow these important practices:

1—Fertilize at least twice a year—in spring and early fall. Use a lawn-type fertilizer with a descending nutrient ratio such as 10-6-4 (see "GO for a Better Lawn!" in the May issue or reprint FS-868). This will keep your turf thick and better able to crowd out weeds.

2—Water only when the soil becomes dry, and then water deeply—to a depth of 4-6 inches. This will reduce germination of crabgrass seeds in June and July and favor the development of a better, deep-rooted turf.

3—Mow regularly at a 1½-2 inch height of cut. It's especially important to mow high in the late spring when crabgrass is getting started. Any shade reduces the vigor of a crabgrass seedling.

4—Remove clippings from the lawn whenever you clip more than one-third of the total leaf area from the plants in one mowing or whenever the clippings are more than 1 inch in length. Catch the clippings while mowing, or rake following mowing, to help prevent accumulations. When crabgrass or other lawn weeds are seeding, catch and burn the clippings to destroy as many seeds as possible.

5—Aerify compacted areas to loosen the soil before weeds take over. Improved penetration of water and fertilizer following aerification often permits the turf to become sufficiently aggressive to crowd out weeds which have become established.

Weed Control . . .

Chemical weed control is advisable when weeds are present in large numbers. Use care in applying herbicides according to directions. Read the label on the container before buying. Make sure that you understand the method of application and that the necessary spray or spreading equipment is available. Treat only your lawn with chemical herbicides. Many of these materials will injure other ornamentals or vegetable and farm crops. Clean garden sprayers used for weed killers carefully after use. Don't use them for applying materials other than herbicides.

You can eradicate many of the most troublesome perennial weeds with chemical herbicides containing 2,4-D. This chemical is available under several trade names in both liquid and solid forms. Make treatments in mid-spring or in the fall when soil moisture levels are high and when weeds are growing vigorously.

Dandelion, plantain and *buckhorn* usually are completely killed with one application. *Chickweed, ground ivy, yellow sorrel* and *yarrow* are sensitive to 2,4-D but often require more than one treatment for absolute control.

For repeated applications of 2,4-D, time them so that the weed is just starting to recover before the next application. By continuing treatments in this way over

Mature knotweed (top), and seedling knotweed.

Yellow wood sorrel.

a period of 1-2 months, even difficult-to-kill weeds can be worn down and eliminated. Intervals between treatments usually should be about 7-14 days.

Weeds showing resistance to 2,4-D often are most susceptible to control by using a mixture of 50 percent 2,4-D and 50 percent 2,4,5-T or 100 percent 2,4,5-T. *Knotweed* and *clover* are examples of this type of weed. Spray knotweed in the spring with 2,4,5-T when the weed is just getting started. It's difficult to kill when mature with any chemical that won't also destroy the grass. Clover may be desirable in some lawns. But since it detracts from the uniformity of the turf, it's often considered a weed. One spring or fall application of 2,4,5-T usually will give good control of clover.

Crabgrass frequently is the most troublesome of all lawn weeds. It's an annual. Thus the source of next year's plants is this year's seed. Crabgrass seeds aren't found as a contamination in lawn seed mixtures. If crabgrass suddenly appears in your lawn, it's likely that the seed has been blown, washed or carried into the lawn by man or other animal. Crabgrass thrives under hot, dry summer conditions. Since turfgrasses usually are less aggressive at this time of year than any other, crabgrass may quickly gain possession of large areas.

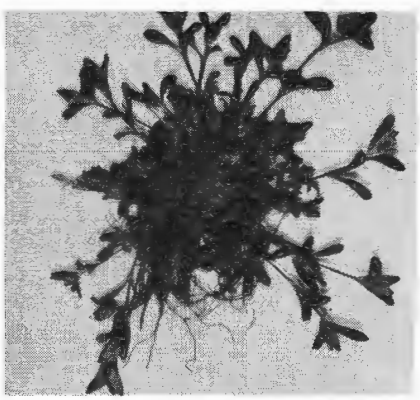
You can carry out chemical control of crabgrass in two ways. (1) You can kill the seed by applying chemicals to the turf before crabgrass germination in May or early June. (2) You can kill the plants after they start to grow.

Crabgrass-control chemicals to be applied before seeds germinate include chlordane and various arsenic compounds, including calcium arsenate. These materials are available under several trade names and may be applied in solid form. Materials to be applied to the young plants include disodium methyl arsonate, potassium cyanate and phenyl mercuric acetate. (Don't use phenyl mercuric acetate on a Merion bluegrass, however, since severe injury may result.)

Applications of herbicides on mature crabgrass are never as effective as on seedling plants. Also, once seed has set, the only beneficial effect of the chemical is in reducing germination of the seed. You can accomplish this better with a pre-emergence chemical. Whatever chemical you use, make sure that you apply it according to the manufacturer's directions.

Weeds in New Lawns: Good garden soil normally contains many weed seeds. So the presence of weeds in a seedling turf often is unavoidable. Many of these weeds won't tolerate mowing and will disappear under normal lawn maintenance. Soils heavily infested with weed seeds may be sterilized in advance with such materials as Dowfume, Vapam or Mylone to create a weed-free seedling turf.

Don't treat a seedling turf with weed killers. Grasses less than 4 months old are extremely sensitive



Mouse-ear chickweed.

Mature crabgrass.

Broadleafed plantain.

to injury. Fall and early spring seeded lawns usually contain fewer weeds than lawns seeded at other times since cool, moist weather favors turfgrass development more than weed growth.

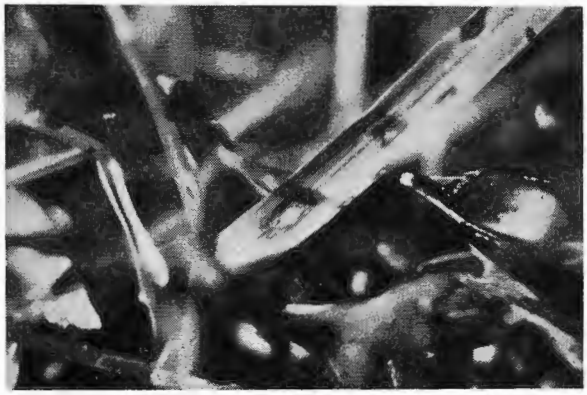
Turfgrass Diseases . . .

It's often assumed that any brown spot that ocurs in a lawn is the result of a disease. This isn't necessarily correct. Lack of water or the presence of excess soil moisture may produce symptoms which can be mistaken for disease injury. Chemical burn or fertilizer scorch, insect damage, animal excretions and mechanical injuries are other causes of disease-like patches.

Several fungus diseases, however, are common on lawn turf. Learn to recognize them and how to control them with proper cultural and chemical practices.

As with weeds, stopping the spread of a fungus disease won't lead to an improved turf unless soil conditions encourage the development of fine turf. Too much moisture at the soil surface and poor fertility are commonly related to the occurrence of disease injuries. Poor air circulation in a part of the lawn may result in prolonged hot and humid conditions—ideal for the spread of a disease. Thinning out woody vegetation to improve air movement is helpful in such a case.

Of the several turfgrass diseases, rust, leaf spot, fairy ring and snow mold are the most common:



Leaf spot of Kentucky bluegrass.

Snow mold injury.

Fairy ring scar.

Exposed grubs.

Rust may be recognized by the presence of yellowish-orange to reddish-brown powdery pustules on leaves and stems. It's serious on Merion bluegrass and ryegrass during hot, dry weather when the grass isn't growing vigorously. Foliage turns yellow; leaves shrivel, and the turf thins out.

Fertilizing a week or two before the disease is expected, followed by proper watering throughout the summer, will stimulate the grass so that it can better survive the infection. Frequent clipping to remove infected plant parts helps to keep rust under control.

Dandelion.

Leaf spot develops on foliage of bluegrasses, fescues and bentgrasses as purple-to-brown areas. These often enlarge up to half an inch long and may develop light-colored centers and dark reddish-purple margins. Where leaf blades are girdled, the tips shrivel, turn yellow and die. Where the crowns, stems and roots are infected, the turf thins out rapidly as plants die. Conditions for leaf spot are ideal during the moist, cool weather of spring and fall. Turf weakened by this disease is easily invaded by crabgrass and broadleaf weeds.

Merion bluegrass is tolerant of leaf spot and normally doesn't require chemical control measures. You can protect other bluegrasses by fungicide applications at 2-3 week intervals before and during the period of infection. Zineb, phenyl mercury, Tersan, Tersan OM, Thimer, Actidione-Thiram, Kromad and Captan have been found effective for leaf spot control.

Fairy ring may first be recognized by the presence of rings of darker, faster-growing grass in which toadstools, mushrooms or puffballs may appear following heavy watering or rains. These are the fruiting bodies of a fungus which grows below ground and feeds on dead and decaying organic matter. The fungus doesn't attack the grass but competes

with it for moisture and space much like a weed. This competition may become so great that some of the turf within the ring may die.

In other cases, the presence of the fungus in the soil may result in localized dry patches that never produce good turf. Soil aeration is helpful in encouraging the grass in these locations. Use of wetting agents and ample nitrogen fertilizer will help to wet the soil and decompose the organic matter present. Applying dilute monthly drenches of fungicides such as phenyl mercury, mercury chlorides or copper sulfate to the rings may help to slow down their development.

Snow mold may often be noted in early spring as snow cover leaves the ground. More or less circular patches of bleached brown turf appear in low, moist areas where grass cover has been thick. This disease normally develops under a snow cover, particularly where snow has been compacted. Snow mold scars often take the shape of footprints, ski tracks or bicycle or wagon tire marks. After the disease can be recognized, however, it's too late to apply a fungicide.

Brush or rake the injured turf to allow air and sunlight into the sod. Fertilize and water carefully during the early spring months to encourage rapid recovery. If sections of your lawn are frequently infected with this disease, treat them chemically just before the first expected snow in early winter and again, if possible, during a January or February thaw. Tersan OM, Thimer, Calo-chlor and Calocure are effective in preventing mold when used in this way.

General control: Various chemicals are recommended for general disease control on lawns. Preventive treatments are more effective than curative treatments since early detection of a disease is essential to halting injury once the fungus is activated. The new "broad-spectrum" fungicides, such as Tersan OM, Kromad, Thimer and Actidione-Thiram, generally are effective for all lawn diseases. Follow directions carefully in using these materials—especially on the rate and timing of applications.

Where diseases are suspected and turf doesn't respond to treatment, cut two or three samples of turf about 3 inches square and 2 inches deep from the edge of the infected area, including some healthy turf. Wrap these plugs in aluminum foil or polyethylene and mail them to the Extension Plant Pathologist here at Iowa State. Attach a letter to each sample stating briefly the past history or condition of the lawn. Once the fungus pathogen is identified, a specific fungicide can be recommended for control.

Insects, Animals . . .

Lawns may be severely injured by chewing or sucking insects which attack the base or upper roots of grass plants. *Grubs* of the Japanese and June beetle work below ground where they destroy roots. You'll see injury to the turf in these cases as a loss of green color, followed by wilting and death of the grass. Sod may be lifted easily where grubs have eaten away the roots, and the shape of the injured sod will usually conform with the feeding pattern of the grubs.

Several species of *sod webworms* attack lawn grasses. The short, thick-bodied larvae chew off blades of grass at the ground level, sometimes leaving only small amounts of brown, matted grass. *Ants* may build their homes in lawns. The piles of soil at the entrances to ant galleries interfere with grass growth and make the lawn unsightly and harder to care for.

Your lawn needn't be spoiled by these insect pests. Early detection and diagnosis of the insect causing the trouble, followed by proper use of an insecticide, will stop damage to your turf before it becomes severe.

Besides noting the insects themselves, the presence of more birds or skunks than normal may serve as a warning of increased insect populations. These animals, like moles, feed on lawn insects.

Insects often produce patches of brown turf similar in appearance to those produced by diseases. It isn't always easy to know whether a fungus or insect is causing the trouble. Weeds are seldom bothered by either diseases or insects and may gain entrance to a lawn as grasses die out as the result of a slow-developing insect infestation. Remember that chemical control of insects won't in itself repair damage already done to the lawn. Proper turf care after treatment will aid in speeding recovery.

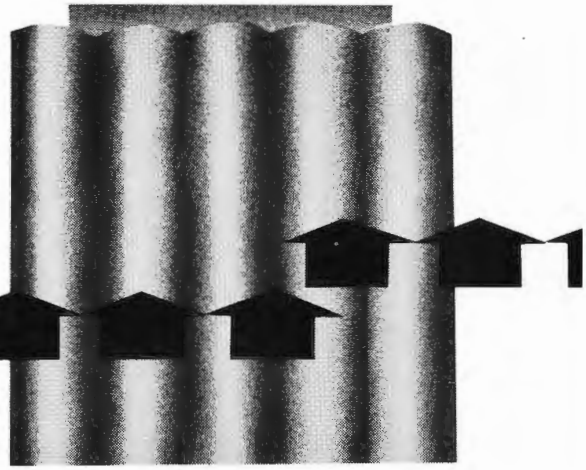
As soon as insect populations reach harmful proportions, control them by applying 4 ounces of 25-percent aldrin emulsifiable concentrate, 6 ounces of 15-percent dieldrin emulsifiable concentrate or 4 ounces of 45- to 50-percent chlordane emulsifiable concentrate per 1,000 square feet. These insecticides must be soaked into the soil by thorough watering following application. The chemical won't kill insects it doesn't reach.

Other formulations of these chemicals such as dusts, granules or wettable powders are available and should give good control if applied in amounts containing equivalent active ingredients. These materials also are helpful in controlling *clover mites* and *chiggers*. Where complete control isn't obtained with one application, repeat treatments may be needed. Residual effects of these materials, however, should last from 3 to 5 years.

Earthworms generally are of value in helping to keep lawns in good condition. But they may become so prevalent that their castings make the soil surface extremely rough and uneven. If so, apply 1½ pounds of actual chlordane in 5 gallons of water per 1,000 square feet. This dosage will reduce, but not eliminate, earthworms and also will control any lawn insects present. Applied about May 1, this amount of chlordane prevents germination of crabgrass seeds. Soak the lawn thoroughly following application.

Weeds, diseases and pests need not spoil the uniformity of your turf. You can stop them before they make serious inroads. Start with recommended regular lawn care. Control weeds, diseases and pests as necessary, and continue the upkeep of your first line of defense—a good dense turf.

The Grain-Storage Picture



Grain storage and the capacity for it have grown rapidly in the past 10 years, and there's much interest in the cost of the over-all operation. Here's a brief summary of the situation — nationally and here in Iowa.

by Geoffrey S. Shepherd, Allen B. Richards and John T. Wilkin

FEDERAL price-support and grain-storage operations have grown to large proportions over the past 10 years. The estimated carryover of feed grains last October was 68 million tons—equal to half of an average year's crop. Carryover of wheat last July was 1.3 billion bushels—more than an average year's crop. Most of these stocks were owned by the Commodity Credit Corporation. Yearly figures for these stocks are shown in the table.

Total CCC investment in price-support programs by the end of 1959 amounted to 9.1 billion dollars—consisting of 1.7 billion in loans outstanding and the cost value of the inventories of 7.4 billion. The "realized cost" of the "programs primarily for stabilization of farm prices and income" rose to approximately 2.7 billion dollars in fiscal 1958. This is the net amount paid out by the CCC that year.

Who Got the Money?

Did farmers get it all? They got most of it. But a substantial share went to the grain trade for storage and handling of the stocks of grain. Data from the Commodity Stabilization Service show that the total cost value of the corn disposed of by the CCC in fiscal year 1959, for example, was 505 million dollars. About 395 million of this represented the cost of acquiring or loan value of the corn. The remaining 110 million represented the costs of storage, handling and transportation and other miscellaneous costs.

Returns to the CCC for these dispositions amounted to 271 million dollars. Thus, in fiscal 1959 the "realized cost" of the corn program was 234 million dollars, with about half of this amount going mainly to the grain trade and transportation agencies.

Storage Facilities . . .

Grain storage capacity also has increased greatly. Most has been built by private enterprise. Rates paid by the CCC under the uniform storage agreement—plus the accelerated amortization program, the guaranteed occupancy contracts and the policy of filling elevator space before bin site space —evidently were attractive enough to induce the grain trade to build substantial amounts of new storage capacity to handle the CCC grain. The storage rate in recent years has been 16½ cents per bushel per year.

This large increase in storage capacity has created some hazard for the grain trade. What would happen, for instance, if a series of poor crop years came along or if CCC loan rates were lowered considerably such that year-end carryover stocks were greatly reduced? Could the excess capacity be converted to other uses? Or would substantial over-capacity show up? If so, where would it be located and in what amounts?

There are other questions, too. Has this new capacity been built at the expense of other alternative uses for elevator capital? What have been the effects on the capital structure of country elevators building this new capacity? Have the storage programs been profitable for elevators? If so, have the CCC programs interfered with or been compatible with nongrain activities of country elevators?

Year-end carryover of feed grains and wheat, 1950-60.

Crop year	Feed grains, Oct. 1 (million tons)	Wheat, July 1 (million bu.)
1950	30.5	400
1951	28.6	256
1952	20.1	605
1953	27.0	934
1954	31.7	1,036
1955	39.1	1,033
1956	43.3	909
1957	48.9	881
1958	59.1	1,279
1959	67.7[a]	1,319[a]
1960	78.0[b]	1,436[b]

[a]Preliminary
[b]Projected
Source: The Feed Grain Situation, The Wheat Situation, AMS, USDA.

Wheat: The CCC has made the greatest use of commercial subterminal and country elevator space and the least use of its own facilities, such as country bin sites, in the case of wheat. In 1958, for instance, 54 percent of

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the CCC-owned wheat was stored in subterminal and country elevators, 33 percent in terminals and 13 percent in CCC-owned or controlled storage.

Corn: Here the CCC generally stored the largest proportion of its corn in CCC-owned facilities and the lowest proportion in terminal storage. But, between 1956 and 1958, when the total amount of CCC corn rose to a very high level, only a small amount of this increase was stored in CCC-owned facilities. Most of the increase was stored in commercial subterminal and country elevators. In 1958 the proportion stored in commercial facilities rose to 33 percent, with 56 percent stored in CCC-owned or controlled facilities and 11 percent in terminals. These figures don't include on-farm storage.

Location: Stocks of the different grains are concentrated in different areas in various types of storage facilities. Wheat stocks are concentrated in Kansas and, to a lesser extent, in Nebraska. The CCC-owned wheat is held chiefly in commercial storage facilities. Subterminal and country elevator positions generally are used more extensively than terminal elevators, though this tendency became less marked after 1956. The amount of wheat stored by the CCC in its own facilities is relatively small.

The increase in the amount of corn carryover under CCC ownership is concentrated chiefly in Iowa and Illinois. Until 1956 commercial facilities weren't used extensively for CCC storage of its corn inventory, and it made greater use of its own facilities. Where commercial facilities were used, country and subterminal elevators were used more than terminal elevators. Since 1956 the amount and proportion stored in commercial facilities have risen sharply, particularly in country and subterminal elevators.

Capacity: The accumulation of CCC grain stocks made necessary a substantial increase in the construction of new storage capacity to handle these stocks. Country elevator storage capacity increased more than terminal elevator capacity, with the greatest increases in Kansas, Iowa and Illinois, in that order.

This additional grain storage capacity was built primarily to take advantage of the opportunity to store CCC grain, not because of increased merchandising opportunities. Actually, the construction of storage capacity in terminal markets was increasing faster than the amount of grain available for marketing. At the same time, market shipments and receipts of grain were declining.

Iowa: The amount of elevator capacity in Iowa has increased substantially in relation to grain production in recent years. In areas where a substantial portion of this capacity is in permanent grain-storage tanks, it's likely that excess capacity would exist if the CCC program were reduced. In areas where much of the capacity is in flat storage (quonset-type structures, for example) that can be converted to other uses, this problem is less likely to arise.

Cooperatives: The capacity of cooperative elevators in Iowa rose considerably after 1950. Large cooperatives increased their capacity by about 3½ times from 1950 to 1956. Their flat capacity, however, increased much less than this. Small elevators more than doubled their capacity after 1950. But, by 1957, their flat capacity was 50 percent greater than their permanent capacity.

About 84 percent of the capacity built by Iowa cooperative elevators after 1946 was for grain storage. About 30 percent of this increase resulted from government construction incentives. Including the flat storage built after 1946, about 45 percent of the cooperative capacity built after that year is directly attributable to CCC and government construction incentives.

The financial structure of the elevators in 1956 indicated that the large cooperative elevators expected the available volume of free grain for merchandising and storage to increase substantially should the CCC program decline. Small elevators were either more cautious or foresaw less prospect of increased grain opportunities in the future. They concentrated on building more temporary flat capacity and on sideline facilities, while the larger cooperatives built proportionately more permanent structures. A large portion of the storage capacity built by the larger cooperatives was completed under the accelerated amortization provision of the 1954 internal revenue code.

There was little change among different-sized cooperatives in the relative volumes of grain handled in the 1950-56 period when government programs were in effect on a large scale as compared with earlier periods when most of the programs weren't in effect. But a high proportion of all elevators had a decline in their corn volume, mainly because of the large amounts of grain "fixed" in storage under the commodity loan program.

By 1956 large cooperative elevators received almost a third of their total gross income from the CCC. They received 64 percent of their *grain* income from the CCC. The small elevators received 10 percent of their total gross income and 32 percent of their grain income from the CCC. The small elevators relied more on sideline and custom service income and, thus, tended to be less dependent on CCC storage operations than the large elevators.

Our findings indicate that the small cooperative elevators obtained about the same or a greater net return on total investment in all fixed resources as did the large elevators. The small elevators stored proportionately less CCC grain than the larger elevators, but this didn't hinder their ability to make an adequate return on their investment.

Iowa cooperative elevator managers believed that the major effects of the government grain-storage and construction-incentive programs were: (1) stimulation of investment in equipment and buildings for grain storage as well as sideline and custom service activities; and (2) alteration of the market and pricing structures facing individual elevators.

What About Your Daughter's Future?

Some farm-reared girls will be marrying young men who plan to farm. Others will be marrying young men planning nonfarm careers. Still other farm girls themselves will be seeking a college education or looking for nonfarm jobs.

by Lee G. Burchinal

WHAT ARE YOUR daughter's plans following high school? She may plan to marry in the near future. She may already be aware that her chances of marrying a young man who's going to farm are much less than those of her mother when she was a girl. The young man she hopes to marry may be planning to seek a college education before returning to the farm or entering a nonfarm career or occupation.

If your daughter doesn't plan to marry immediately, she'll probably want to work for a year or two or go to college herself. Whether she decides to work, to go to college or to marry a farm or nonfarm youth seeking an off-farm career, she'll be starting a new adult life. And she'll be competing with or living among other young women from farms, from towns and from cities. How well is she prepared? Do farm girls have any initial or long-run advantages over town and city girls? Are there disadvantages?

As for boys as reported in the March issue (see "What's Your Son Going to Do?" or reprint FS-861) our preliminary study also furnished some tentative answers to these questions for girls. In this case, our information comes from 331 high school girls in the tenth and twelfth grades — 80 farm girls, 117 small town girls who lived in the same west-central Iowa county as the farm girls and 134 girls living in a central Iowa metropolitan area. Thus, the results don't necessarily represent the state as a whole. But they do give us some information on how farm, small town and urban high school girls measure up with each other.

LEE G. BURCHINAL is assistant professor of rural sociology and is a member of the staff of the Center for Agricultural and Economic Adjustment.

What We Found . . .

There were no great differences in school grades or participation in school activities.

Farm and small town girls made about the same grades in school. There was no large difference, either, in participation in school activities between the two groups of girls. But, as we found for boys, the farm girls were slightly more active in extracurricular activities. (We asked questions about school grades and activities only of the farm and small town girls who lived in the same county and attended the same schools.)

Fathers of farm girls were less involved in their daughters' occupational plans.

About 46 percent of the farm girls indicated their fathers hadn't said much to them about occupational plans after high school. This was reported by 39 percent of the small town girls and by 34 percent of the urban girls.

Mothers of farm and urban girls were about equally involved in their daughters' occupational plans.

Generally smaller proportions of the farm, small town and urban girls reported that their mothers, as compared with fathers, hadn't said much to them about occupational plans after high school. This was reported by 19 percent of the farm girls, by 25 percent of the small town girls and by 16 percent of the urban girls.

Farm parents provided less encouragement for their daughters' education beyond high school.

All three groups of girls reported that their mothers, more frequently than their fathers, were definitely encouraging them to plan for education beyond high school. But farm girls reported slightly less encouragement from either parent than did small town and city girls. Definite encouragement from mothers to continue their education was reported by 47 percent of the farm girls, 56 percent of the small town girls and 55 percent of the urban girls. Similar encouragement from fathers

was reported by 29 percent of the farm girls, 47 percent of the small town girls and 46 percent of the urban girls. The greatest difference between mothers and fathers was among farm parents.

Farm girls more frequently reported educational plans of some sort following high school.

Differences in the proportions of the three groups of girls with educational plans of some sort following high school weren't great. But—in contrast to the situation for boys reported in the March issue—the difference was in favor of the farm group. Only 16 percent of the farm girls, 20 percent of the small town girls and 23 percent of the urban girls reported *no* education plans after high school.

Farm girls more often planned business or noncollege training and less frequently planned to enter college.

Almost 45 percent of the farm girls indicated plans for additional education in business or noncollege educational programs; 36 percent of the small town girls and 21 percent of the urban girls reported such plans. College plans were reported by 39 percent of the farm girls, 44 percent of the small town girls and 56 percent of the urban girls.

Among girls planning to enter college, farm girls have less often chosen their college or university.

Small town girls most often reported college choices; 69 percent indicated that they'd made a choice. Urban girls came next, with 60 percent; farm girls last, with 48 percent.

There were no differences in plans to work after schooling.

About 92 percent of both farm and small town girls and 89 percent of the urban girls planned to work after they finished their schooling. Unlike the situation for boys, there was no tendency for farm girls to plan to enter the relatively lower prestige-income occupations.

A Smaller Gap . . .

In the report on boys in the March issue, we generalized that farm boys and their parents "had to come up from behind" to match small town and urban boys and their parents in terms of preparation for competition for nonfarm occupations. In some ways, this generalization also seems to hold for the farm girls and their families. But the differences among farm, small town and urban girls didn't point as consistently in this direction as for the boys.

The differences in results between boys and girls probably is mainly a reflection of the importance of work and advance training in the lives of men and women.

Occupational training generally is more important for men than for women. Marriage is the prominent career for most women. And marriage comes relatively early in adult years for the majority of Iowa young women. Last year, for example, the *single, most frequent* age at marriage for women was 18. More than half of all women married last year in Iowa were 20 years of age or younger.

But this doesn't mean an education beyond high school isn't necessary for girls.

Quite to the contrary, it's important for girls. For one thing, an increasing proportion of young women are working after marriage. "Two-income" families are becoming commonplace, both before and after children are born. Education helps assure the modern wife and mother a more satisfactory, less strenuous and higher income job. Apart from employment, additional training provides a young woman with the resources to be a better wife, mother and member of her community.

We've mentioned that the differences between farm, small town and urban girls weren't as consistently in favor of urban girls as was the case for the comparisons of the farm, small town and urban boys. But some of the results for girls agreed with those found for boys.

Farm fathers, for instance, were less frequently reported as involved with the occupational plans of their daughters than were small town or urban fathers. Farm fathers and mothers were less frequently reported as definitely encouraging their daughters to continue their education beyond high school.

But contrary to the results for boys, farm and urban mothers were about equally involved in their daughters' occupational plans. Another difference: Slightly more—rather than less, as was the case for boys—of the farm girls planned for some education beyond high school. When we looked at the kind of training planned, the direction of farm, small town and urban differences for girls was the same as that found for boys. Farm girls planning further training more often planned noncollege education. Small town and urban girls planning further training more frequently planned to enter a college or university.

In Brief . . .

Much of what we said in the March article about boys' educational and occupational plans (and of their parents' involvement in these plans) could be repeated for girls. Farm fathers, as compared with small town and urban fathers, apparently tend to underestimate the importance of occupational and educational plans in today's modern setting. Farm mothers tended to lag in definitely encouraging their daughters to continue their education after high school. Probably as a partial consequence, farm girls seemed less likely to consider college training than small town and urban girls.

Many factors probably operate to produce these conditions. One important factor may be that farm parents haven't had to think so much in terms of nonfarm work and family life for themselves. But because many farm youths must now plan to work and live in urban areas, it's doubly important for farm parents to encourage their children to prepare for successful nonfarm (or farm) living. Schools and other community institutions can help, but a good share of the responsibility lies also with the parents.

YOUR EXTENSION SERVICE REPORTS . . .

MEETING THE CHALLENGE OF SOCIAL AND ECONOMIC CHANGE IN IOWA

Associate Director Marvin A. Anderson of the Cooperative Extension Service at Iowa State discusses the year's events.

- **State leaders and staff study problems of change in Iowa.**
- **Subject-matter teaching reoriented, with emphasis on efficiency and cost-cutting technology.**
- **Emphasis in family living is changed.**

Let's start this report by asking about the same question we asked last year: What do you think, Director Anderson, was the greatest problem facing Iowa farm people in 1959?

"Again I would have to say that Iowa farm families faced many problems during the year. But one, certainly, tops all the rest in the minds of most farm people. That's sharply reduced income, coupled with constantly increasing production costs."

Was 1959, then, less favorable than 1958?

"Definitely—a very sharp break downward. Most of the trouble is coupled with the long-range adjustment problems plaguing agriculture — producing more food than can be disposed of under our present situation. But there were some short-run effects as well.

"Old Man Weather stepped in and dealt a severe blow last fall and raised havoc with the drying and harvesting of a bumper crop of corn. Every farmer knows what happened to hog and cattle prices, to say nothing of the price of eggs. And when his corn was too wet to seal under the CCC provisions, the price-support mechanism became less effective. That was a severe setback, especially when the things a farmer has to buy were up considerably from the year before."

What do you think will be the net effect of this additional setback?

"It's a little too early to tell at this point. Certainly it will most hurt those farm people who can least afford it. There are some indications that it is speeding up some of the trends that have been apparent for a number of years. More people will be leaving farming when they can find suitable employment elsewhere; fewer qualified young people may be getting a start in farming; more farmers and their wives are seeking full- or part-time employment off the farm."

You mentioned farm wives taking jobs. Is this a sizable trend?

"Yes. This trend has been under way for quite some time. The wives are working to provide some of the conveniences and benefits for their families that urban families have. It hardly seems possible, but the experts estimate that a third of Iowa's farm homemakers now have part- or full-time employment away from home."

Long-Range Concerns . . .

Have the long-range concerns of farm people changed materially from those indicated last year?

"No, I'm certain they haven't. If anything, there

has been a more solidified recognition of certain problems that should receive major attention."

Could you list these concerns?

"Well, of course, the complete list is a long one, and different people would express them in different ways. And there's a wide variation of opinion as to how they might be solved. Our people are finding that about half a dozen concerns are emerging as the predominant ones. I'd list them this way:

- The need for more rapid economic growth in Iowa to provide more jobs and to raise family incomes.
- The need to improve the educational system and the education of our children and adults on a broad front to better serve our vocational, citizenship, community and family needs.
- The need to put agriculture, as an industry, on a sound and prosperous basis, including need for a new basis of cooperation between farm people and government.
- The need to deal with the world problems of freedom and the threat of war, of underdeveloped nations and of expansion of world trade.
- The need to remove or lessen the modern threats to family living.
- The need to improve community life, educational and employment opportunities, recreation and other facilities.

"Notice that all of these are family oriented. This indicates that our fundamental objective as extension workers still is about the same as it always has been—to extend education to the people of Iowa in agriculture, home economics and related fields suitable for their full and well-rounded development. Extension *must* be geared to help the family."

Even though the basic objective of the Extension Service hasn't changed, don't these concerns indicate a definite change in direction?

"Perhaps not so much a change of direction, but more of a reorientation and, to some extent, a change in emphasis. Just as agriculture itself must adapt to change, so must the educational services provided. And very considerable changes have been made. Even those of us who work with extension activities every day can scarcely realize or appreciate the changes which have taken place—both in methods of teaching and in what is taught."

It looks as though the scope of Extension Service activities is becoming much broader than it was in earlier years.

"I think that is a correct assumption. As we've been taking a look at ourselves in the light of the needs and wants of the people we serve, we can deal with confidence in about nine specific areas in which we have a major responsibility. Without attempting to list these by importance, we've classified them as follows:

(1) Efficiency in agricultural production; (2) Marketing, distribution and the use of farm products; (3) Conservation, wise use and development of natural resources; (4) Management on the farm and in the home; (5) Family living; (6) Youth development; (7) Leadership development; (8) Community improvement and resource development; and (9) Public affairs."

I notice that agricultural production is at the top of the list.

"That's probably because that's where our greatest effort has been in the past, and, of course, we have more information in the production field than in any other single area. But notice that we say *efficiency* of production rather than 'increased' production. From my point of view, there's quite a difference. But even in the production phases of our educational work, there are important changes taking place."

Such as?

"Perhaps the most radical change is that we're attempting to teach the 'why' of production in addition to the 'what.' We're experimenting, for example, with teaching the principles of soils and crop production. This year we held a series of schools where farm operators actually 'went to school' and studied very complex scientific subject matter, such as soil chemistry and plant physiology. Given the facts, it's our opinion that farmers will be able to make wiser decisions on the varying problems of their individual farms. The experience with this type of short course was so favorable the first year that, by the end of the year, about a fourth of the counties will have conducted similar 3-day short courses."

It sounds like going to college.

"In a way, yes. It's indicative of the continuing education that will be absolutely necessary for successful operation of a farming enterprise. Farm operators must keep abreast of modern technology, and I, for one, believe that we must keep agriculture modern. I notice also that our production specialists are bearing heavily on such matters as quality of product, managerial ability and marketing problems."

Marketing is getting a great deal of attention these days, isn't it?

"That's right—from both the producer and the consumer sides. And it's concerned with a great variety of problems. I'd like to point to just one example. In one of our counties, there were five small creameries, all having difficulty in making a go of their businesses. Through the efforts of our county extension director, a relatively disinterested party, leaders of the five creameries were brought together to discuss their problems.

"After considerable study, with the assistance of specialists from Iowa State, these creameries decided

A full-scale model livestock corral to demonstrate efficient handling of livestock.

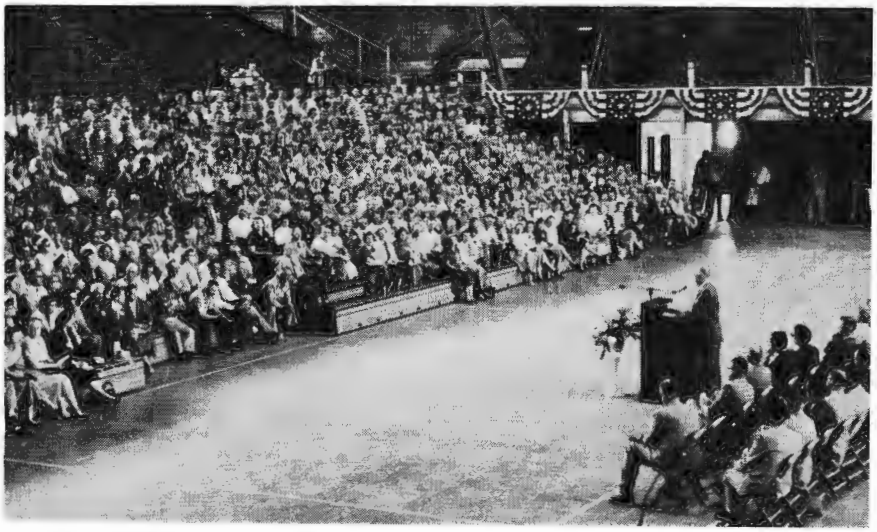
County programs for extension education are determined by the County Extension Council.

Farm operators discuss crops and soils at a 3-day Extension Service short course.

The state 4-H camp combines learning with recreation for 6,500 campers.

Extension cooperates with local business in a new home economics teaching venture.

Farm and Home Development programs assist 2,000 young or starting families each year.



Members of the state's county extension councils tour the Iowa State campus periodically and meet members of the state staff. Here, President James H. Hilton addresses visiting members of the councils.

that the best alternative was to merge the businesses into one unit. The net result: Farmers received about 5 cents a pound more for their butterfat than would have been the case if the merger hadn't taken place."

Problems of Change . . .

Last year you mentioned that the work in the area of agricultural adjustment was the most significant undertaking then. Is this work being continued?

"By all means. And in many ways, it is the most rewarding. While it's difficult to measure, I believe that there's been real progress. Perhaps this is because it's so important to Iowa. The broad general problem lies in a setting of change in the state, in the United States and in the world at large. Rapid change in technology and its applications, the changing living standards and patterns of people, the growing population in total—but with some Iowa communities remaining only constant or declining—bring concerns related to the community organizations and institutions."

What was the nature of this year's program?

"In 1958 we conducted a large program—involving widespread use of press, radio and television—under the title of 'Challenge to Iowa.' In the winter of 1959, we conducted a series of leader workshops in 12 different locations throughout the state and reached about 1,200 leaders from farms and towns.

"This workshop effort was designed to provide leadership in the state with information concerning economic and social growth that would be helpful to them as they performed their leadership roles in the organizations to which they belong, whether farm, town or city. We were assisted in these workshops by members of the staff here at Iowa State and also by staff members of our sister institution, the State University of Iowa."

Just what have you been attempting to accomplish by all of this activity?

"Thus far, the educational efforts related to adjustment and change have been designed to create an awareness and understanding of all Iowans in these areas. We've attempted to give specific training to selected leaders and to our own staff members. Also, we've attempted to provide services to various kinds of activities identified locally as being segments of the broad problem. The results of some of these efforts are beginning to emerge in these ways:

—County staffs were given specific training and materials to use in county programs relating to farm policy. This material deals with the history of farm policy since the 1700's, the current agricultural situation and an analysis of the objectives and alternatives in farm policy.

—Reorientation of subject matter in agriculture and home economics with emphasis on efficiency and cost-cutting technology, with special attention to producing quality products—which the consumers prefer—and greater attention to marketing efficiency.

—Program efforts dealing with the study of career opportunities, primarily for young people.

—Broad community development programs which affect community growth and provide services important to both rural and town people.

—Assistance concerning the role and functions of the community school. Much reorganization has already taken place. The crucial question now appears to be the opportunities these schools provide in serving their communities.

"The broad problem areas are currently under study by county extension councils, program committees and leaders as we are projecting extension program needs for the future and identifying the several basic problems to receive attention in the years ahead. We will continue to emphasize those programs that the people themselves identify as being of foremost importance."

You mentioned the word "projecting." Don't you have something in the Extension Service called "program projection"?

"Yes, we do. I suppose program projection is a sort of academic term for long-range planning. Instead of planning piecemeal, cafeteria-style programs from year to year, many of our counties are trying to take a longer look ahead—studying the long-range needs of the county and establishing certain guideposts for the development of coordinated and continuing educational programs that will help in reaching these goals. Nearly half of the counties are now doing this sort of planning."

Farm and Home Development . . .

Let's turn now to another program often mentioned: Farm and Home Development.

"During the past few years we've been working with a number of younger farm families in a more or less concentrated fashion. We've been attempting to help them with their management and decision-making problems, but, of course, technology has entered the picture strongly as well. A total of 84 counties are participating in this program, but the enrollment isn't large—about 2,000 families.

"Each year about 400 families 'graduate' from the program, and another group of 400 or so are enrolled. These are primarily young or beginning farm families, mostly under 40 years of age. Many of them fall within the 'low income' bracket, and nearly a third haven't had previous experience in taking part in extension programs."

Do you have any measure as to whether this program is successful?

"Yes. Our farm management staff recently made a small survey, using the available farm records. I

Facts and Figures

Cooperative Extension Service-1959

IN IOWA COUNTIES,

10,463 persons assisted extension agents in organizing and planning programs for adult and youth educational activities, supporting them with local funds;

50,605 voluntary leaders and approximately

5,000 organized groups and agencies assisted the

277 professional county extension agents in carrying out the county educational programs. The county staffs are employed jointly by local county extension councils and

IOWA STATE UNIVERSITY, where

43 supervisors, service personnel and administrators supported and coordinated activities between county, state and federal levels, using state and federally appropriated funds;

105 extension specialists prepared educational materials and assisted in training agents and leaders for county programs, drawing information from research at Iowa State and from the

U.S. DEPARTMENT OF AGRICULTURE, where the

Federal Extension Service brought together, for the use of all states, information from programs from all of the land-grant colleges and universities, allocated federal appropriations to the states and provided technical assistance.

Among many other activities,

MEMBERS OF THE COUNTY EXTENSION STAFFS:

Participated in 37,200 meetings attended by 2,569,163 people
Made 93,464 farm and home visits
Had 297,706 office callers seeking information
Received 271,405 telephone calls
Devoted 46,734 days to adult work; 32,851 days to youth activities
Distributed 1,140,552 publications
Wrote 42,866 news stories
Made 4,424 radio broadcasts and 326 telecasts.

MEMBERS OF THE STATE EXTENSION STAFF:

Attended 7,417 educational meetings
Wrote 46,998 letters in response to indivdual requests
Prepared 3,368 press articles
Participated in 2,440 radio broadcasts and 728 telecasts
Prepared 1,331 different publications, with a total of 3,156,550 copies

4-H MEMBERSHIP INCREASED

Enrollment increased from 53,326 to 54,090

4-H girls enrolled	27,771
4-H boys enrolled	26,319
10 years and under	8,339
11 years	9,844
12 years	8,880
13 years	7,287
14 years	6,402
15 years	5,317
16 years	4,260
17-20 years	3,761

think the results give some indication of the success of the effort. The incomes of a random sample of farm and home development families for 1957 and 1958 were compared with average farm incomes of the state and also with the records of a random sample of families in the farm business associations, generally recognized as among the state's top farmers.

"The income of all Iowa farmers increased 24 percent in 1958 over 1957. The association group increased 27 percent. Participants in the farm and home development program showed an increase of 44 percent—with net incomes averaging about $2,100 above the over-all state average.

"It seems to me that this is real progress. We must recognize, of course, that all farm income was down again in 1959, but our farm and home development families should be able to weather the downturn a little better than the average. I only wish we had the resources to expand the program to a much larger group of farm families."

Change in Family Living Emphasis . . .

What's to be said this year of the Extension Service work in home economics?

"More and more, we're inclined to call this phase of our activity Family Living since it often does involve the entire family. In general there has been a decrease in the teaching of homemaking skills. More emphasis has been placed on the teaching of principles and concepts relating to the family as individual members, as a family group and as members of the total society. We still have, of course, the traditional programs in nutrition, food preservation, clothing, to name a few. But we're making a sincere effort to reflect the changing interests of Iowa families."

What are some of these new interests?

"Here are a few of them. Over half of the counties had programs dealing with consumer education —such concerns as buymanship in food, clothing and equipment and consumer-producer understanding. Two-thirds of the counties studied some phase of management, including family resources, time, money, legal affairs. Even more counties studied some area of human relations—children, family understanding and relationships, the problems of an aging population.

"Another large group studied community and public affairs—such matters as civil defense, conservation, safety, citizenship. Still another area is that of physical and mental health. We're trying very hard to adapt these programs to the needs and interests of people. Sometimes this leads to some programs that are a bit unusual for the Extension Service to undertake."

Do you have an example of what you mean?

"Let's take Wapello County. A few years ago, the women of the county made a survey of the marriage records. They found that 26 percent of the girls in the county were marrying at 17 or younger. This, incidentally, is a statewide trend, not one confined to Wapello County. But there was local interest and concern there, and this led to the initiation of a 'bride's school' with the help and assistance of the county extension home economist. This school for young brides and prospective brides was so popular that it's now in its fourth year, and enrollments have been quite large."

4-H Club Work Changing, Too . . .

4-H club activity also has been changing. Shouldn't we look at what's happening in this area?

"Indeed we should. About a third of our state resources and 40 percent of our county resources, both personnel and money, go into the youth program. Membership is steadily increasing. Last year's total was 54,090 members in well over 3,000 clubs. While this doesn't by any means represent a majority of our rural youth, it's worth noting that about 60 percent of our rural youth, at one time or another, gain some 4-H club experience."

I've heard that there are now some urban 4-H clubs.

"That's right. About 10 percent of our membership belongs to urban clubs, including several in the larger cities of the state."

What about the changes that are taking place?

"There are definite changes, although the project activities are the ones with which the public is most familiar. But there's a definite shift of emphasis —again, from the teaching of skills as such to the areas of development of the individual—to career exploration, education, leader training. Preparation for effective living, with special attention to the broad vocational opportunities and community development, is becoming more prominent in our programs. It seems, incidentally, that 4-H club work has been successful largely because it meets certain educational needs of young people."

I've noted that the largest portion of 4-H membership is among youth under 16 years of age.

"Yes, and it's a matter of some concern and considerable study on the part of our 4-H leaders, though there are some rather good reasons for this age pattern—the pressures of high school, church and other activities, for example. Some of our counties, however, are experimenting with senior 4-H groups and with considerable success."

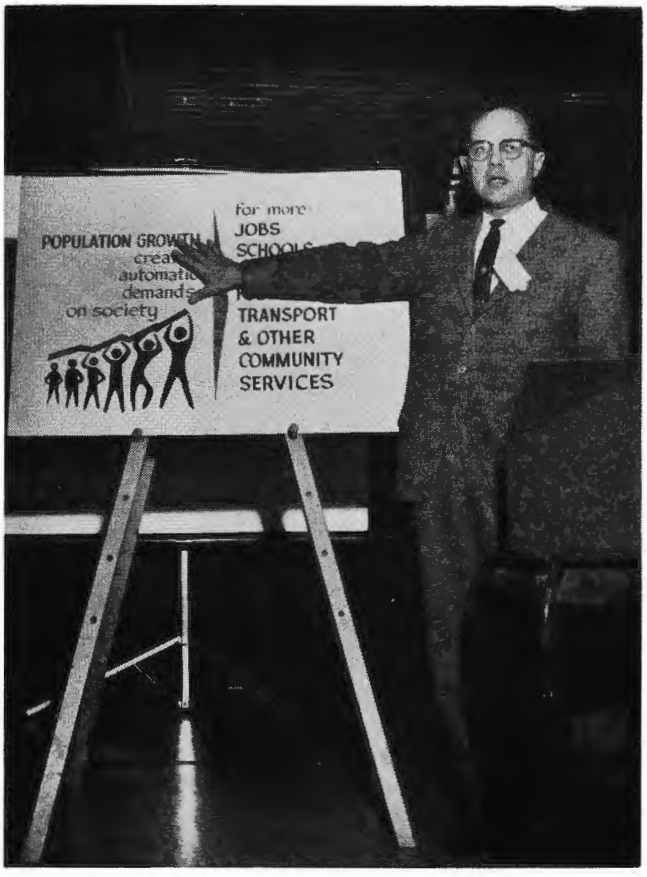
Urban Participation Growing . . .

Is it true in general that more town and city people are seeking assistance from the Extension Service?

"True, but our clientele is primarily rural. When you combine the farm and rural nonfarm people

with whom we work, they make up 75-80 percent of the total. Our legislative authority clearly states that our clientele for education is the people of the United States, nationally, and the people of Iowa, specifically. It also prescribes that we do educational work in agriculture, home economics and *related* subjects. The dynamics of our developing economy and society make it evident that nonfarm residents can benefit from these subjects.

"To me it's clear that we have information important to at least three major occupational groups—farmers, homemakers and those who carry on agri-



More than 1,200 Iowa leaders studied economic and social growth during a series of district meetings.

culturally related businesses. We must obviously contribute to human development. In fact, we find that our clientele comes from many walks of life and from farm, town and city."

I take it, though, that you still regard your primary responsibility is to agriculture.

"It seems to me that the Extension Service here in Iowa must regard the families who operate the state's commercial farms as its primary audience. This is mainly because the kind of new information coming from our College of Agriculture holds its greatest meaning and benefit for those families. The nature of the needs, however, insists that we can't stop with this primary audience."

Role of Extension Workers Changing . . .

Doesn't nearly all of what you've been saying imply quite a different role for members of the extension staff—especially members of the county staffs?

"In many ways, yes. Certainly our present direction places a premium on much higher levels of competency. Increasingly, the county staffs, under the guidance of our district supervisors, are becoming organizers and catalysts of educational opportunity. This role serves a real educational need that few others than the Extension Service can fill.

"More and more, our staff members must have a greater orientation toward what I call 'problems of the whole'—problems of the family as a whole or the problems of smaller business firms in an organization as a whole. Our staff members must be well versed in the problems of the community and of society—community and area development, public affairs and policy, social and economic growth or development."

This may be a delicate question, but has any thought ever been given to the combining of county staffs for greater efficiency and service?

"Since its beginning, the organizational and operational focus of extension work has been the county unit. It still is. But changes in communication and transportation raise questions about the efficiencies of a unit with fixed physical boundaries. We've been giving this subject a great deal of thought. School districts are facing this question, though somewhat painfully. It seems to me that we must be oriented for this possible change, because it may come. Perhaps there are opportunities for joint county efforts. Actually we've been dealing with this kind of problem when we've assigned area workers to serve the programs in a number of counties."

Bright Future Possible . . .

What about the future of extension work in the state?

"I think that the Extension Service has a bright period ahead—a period of great usefulness to all of the people of Iowa. But it also can be a tremendous responsibility in a great, growing and complex society in a world that's constantly becoming smaller. We can continue to render real service so long as we continue to be sensitive to the needs and desires of the people we serve—and so long as we can adjust our programs and activities to the needs of rapidly changing times.

"The dissemination of useful and practical information on subjects relating to agriculture and home economics in a broad sense will remain our primary objective. But our responsibilities go further than that. We must help Iowa people achieve the goals they seek, and we must be aware of the interdependence of our modern society."

Extension Highlights . . .

Brief Items About the Statewide Educational Programs of the Extension Service

Demonstration Corral Built — More Progress in Brucellosis Eradication — Women Indicate Renewed Interest in Clothing — Milk Quality Improving — Farm Accidents High but Decreasing —

Extension played an important role in the 1959 Farm Progress Show. A full-scale working corral for 200 head of cattle was designed and constructed. Some 15,000 or more persons saw its adaptability to modern needs in sorting, weighing, handling and treating cattle. In addition, the Extension Service provided technical assistance in selecting crop varieties and fertility programs for demonstration areas and in equipping the model home.

* * *

County extension personnel carried forward the educational program for eradicating brucellosis in Iowa. Through such efforts, 72 counties had circulated petitions for testing programs; 38 were in process of testing all breeding cattle; 2 counties had been certified.

* * *

Extension entomologists estimate that Iowa farmers saved 2 million dollars by following the recommendation not to spray for greenbug in oats or cutworm in corn. In both cases, damage was already done; chemical sprays would have been wasted.

* * *

Pullorum, paratyphoid and chronic respiratory diseases are major factors affecting profit or loss in Iowa's turkey industry. Extension disease-control programs helped to protect 7 million market birds in 1959.

* * *

Automation has entered the feedlot, and careful attention is necessary to get top efficiency from automatic feed-handling equipment. Personnel in a fourth of the county extension offices have been trained to provide competent planning assistance to farmers.

* * *

Iowa women's interest in learning to sew increased again in 1959. Their reasons seemed more personal than economic. Major interests were in making "better" dresses and in tailoring coats and suits.

Dairy herd improvement associations celebrated their golden anniversary in 1959. If today's dairy cows produced at the level of the 1909 cow, it would have taken twice as many cows to provide Iowans the dairy products they enjoyed last year. Record anaylsis through DHIA has been a major factor in improving efficiency through breeding, feeding and management.

* * *

The trend of Iowa youngsters—particularly rural youth—to take employment outside of their home community continues. Extension youth programs are attempting to meet the need for wise vocational counseling by working through 4-H programs, schools and other organizations. A new program to meet vocational guidance needs was initiated in 1959.

* * *

More than half a million soil samples have been tested for farmers and gardeners by the Iowa State University Soil Testing Laboratory since it started in 1946—48,160 samples in 1959. About 20 percent of Iowa's 33 million acres have been tested in this laboratory.

* * *

The quality of Iowa milk is steadily improving, to a great extent because of the educational efforts of dairy industry, extension workers and more than 60 fieldmen whose work is guided and coordinated by the Extension Service. More than 80 percent of the manufacturing milk in Iowa is in the top grade—less than 4 percent, undergrade.

* * *

Through the cooperation of 10 television stations, Iowa farmers had access to weekly visual reporting of the market trends and outlook for the farm products of most seasonal interest.

* * *

Greene County 4-H boys turned their wildlife conservation activity to practically a community effort. They surveyed farmers' attitudes toward wildlife, organized an Izaak Walton chapter and planted 35,000 trees for wildlife cover.

* * *

For the first time in 1959, plans for an assortment of cattle-feeding equipment became available in a new 56-page book full of ideas and easy-to-read drawings. Over 5,000 farmers bought the book in which plans cost an average of 2 cents each.

* * *

Iowa women who cook for church and community groups are approaching their jobs with new skills. About 1,100 women from 131 groups in 12 counties took part in 3-day extension workshops on quantity cookery. They studied menu planning and buying, efficiency, sanitation, pricing and record keeping.

* * *

Farm accidents in Iowa have declined about 20 percent in the last 10 years, but they still take 400 lives and cost about 12 million dollars annually. In 1959, 4,000 4-H boys were trained in safe, efficient tractor operation.

* * *

Consumers are increasingly interested in information that will help them buy quality products at favorable prices. Iowa county extension staffs supplied this kind of information regularly through 1959.

* * *

In its Farm and Home Development program last year, the Extension Service helped 2,000 young farm families make appraisals of their businesses and their farm and home situations so that they might arrive at wiser decisions.

* * *

More Iowa tenants and landlords are solving modern rental problems through written leases. During 1959, the Extension Service provided more than 5,000 sets of information, instructions and lease forms.

Farm Outlook...

FOR THE MAN WHO FED YEARLINGS, the 10-year history of cattle feeding indicates a fairly profitable decade. Feeding margins were favorable most of the time. The toughest spots for feeders were early 1953 and late 1959.

The prices in the chart represent the prices of prime and choice slaughter steers in Chicago compared directly with the prices of good and choice feeder steers in Omaha 7 months earlier. The difference represents the margin between slaughter steers at time of sale and the purchase price of feeder steers 7 months earlier.

There are only three periods since 1951 when slaughter prices were lower per hundredweight than those paid for steers as feeders.

There were negative margins in late winter and early spring of 1953. During this period, slaughter steers averaged from $1-$2 per hundredweight lower than the feeder steers. If the steers had been kept 8 months rather than 7, however, the negative margin would have been $2-$4.

In October and November 1958, slaughter steers sold for about $1 less than their purchase price per hundredweight.

There were negative margins also from July 1959 to February 1960. Slaughter steers sold in November and December for about $4 less per hundredweight than their price as feeders.

Price margins will become increasingly important in the next few years. With corn around $1 per bushel, it takes about $18 to put 100 pounds of gain on these steers. Thus, there have been few times when feeding this type of steer has resulted in actual losses.

As the price of feeder and slaughter steers rises above $20 per hundredweight it's possible for cattle feeders to realize a profit -- even if they buy and sell on a negative margin. But as the price gets lower, it's necessary to have a larger and larger positive margin to break even.

The price of slaughter steers rose in late winter to around $28 for choice steers. By early May, the price had

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Iowa State University of Science and Technology, Ames, Iowa

Floyd Andrew Director

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slipped a bit. Less fluctuation, however, is expected between this year's high and low spots than in 1959.

Feeder cattle brought to market this spring cost about $25 per hundred. This indicates perhaps a $2-$3 positive margin. But there are also the returns over costs in putting on pounds of gain.

All in all, the cattle feeding outlook for 1960 is more bullish than it seemed as the year began. Marketings of fed cattle in the latter part of the year shouldn't be any larger than a year ago. And, at times, they'll be less. For the last half of 1960, prices should average as high or higher than the year before -- unless feeders delay marketings of fed cattle into the summer.

FEEDER CATTLE . . .

Outlook for range feed conditions is good for the 1960 spring-summer season in the 17 western states. Western ranges are expected to be in average condition for the peak summer grazing. Forage conditions in the Southwest are expected to be better than a year ago. Generally, there's more uniformity of range conditions than last year.

With normal rainfall and no unseasonally high temperatures during May and June, feed supplies will be adequate for the increased numbers of livestock expected to be grazing this year.

Stocker and feeder cattle prices normally rise in the spring as demand increases for animals to stock the ranges. The amount of this spring price rise depends on the supply of stocker and feeder cattle and the forage conditions. Favorable grazing conditions this year are offset by the larger supply of cattle available. So the price rise hasn't been as large as in some years.

No early movement of cattle because of deteriorating summer range and pasture conditions is expected from ranges this year. Some local dry spots may develop, but the favorable range-feed situation will permit a normal marketing pattern this fall. Thus, the western range outlook favors waiting until fall to buy replacement cattle.

Western stockmen are expected to continue breeding herd expansion as long as conditions remain favorable. We haven't yet hit the peak for expansion in the current cattle cycle.

EGGS . . .

Production of layer-type chicks by commercial hatcheries was down 38 percent in March from a year ago. The 72 million chicks hatched were the smallest number for the month since records were first kept in 1955. March 1957 was the previous low, with 109 million hatched.

There were also 27 percent fewer eggs in incubators in April than a year ago. In total, layer-type chicks were down 38 percent in the first 3 months of 1960.

The cutback in layer-type chicks hatched has been the result of low egg prices, though egg prices have risen in the last few months. The drop in chicks hatched is large enough to insure a favorable egg outlook for the next year. There'll be strong incentive for producers to hold over old hens this summer and fall to cash in on good egg prices.